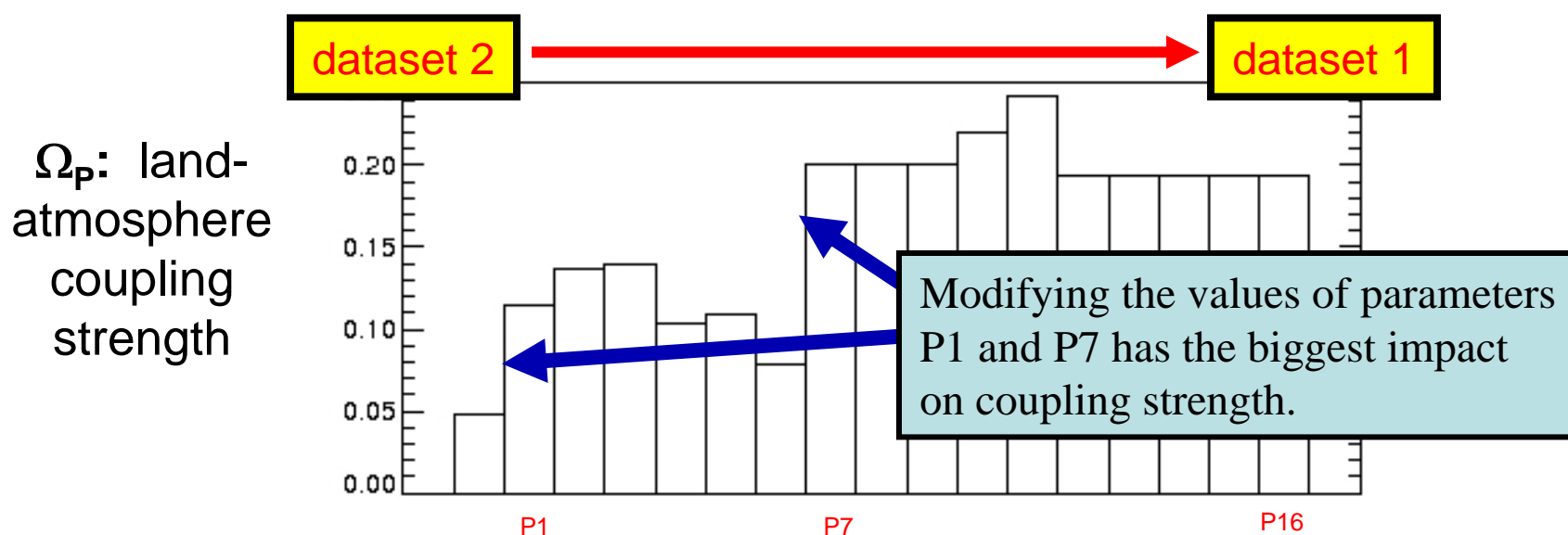


Land-Atmosphere Coupling Strength in a Single Column Model Environment

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The 16 parameters controlling turbulent and moist processes in the GMAO's GEOS-5 AGCM were modified in sensitivity tests using the single column model (SCM) version of the AGCM. The tests quantified land-atmosphere coupling strength, i.e., the degree to which soil moisture variations affect rainfall variations. Sample results:



Thus, in the SCM, coupling strength is controlled mostly by:

P1: Relative humidity threshold for formation of cloud liquid water.

P7: Scale factor describing the treatment of subgrid temperature variability when testing for the onset of convection.

The control of these parameters on coupling strength is now being tested in the AGCM itself.